Features

- Marvell® OCTEON® 10 CN102 Processor
- COM Express R3.0 Basic Module Type 7 pin out
- 8-core ARM Neoverse N2 processor, with max. TDP 33W
- 4 × 10GBASE-KR, 1 × GbE
- 5 × PCIe Gen3 lanes, 4 USB 3.0/2.0, 1 SATA 3.0
- On-chip inline engine for IPsec/crypto offload
- UEFI & u-Boot dual-boot capability

Specifications

Form Factor	Form Factor	COM Express Basic Module
	Pin-out Type	COM Express R3.0 Type 7 Compatible
Core System	CPU	Marvell® OCTEON® 10 CN102
	Core Clock	2.5GHz
	Cores	8
	LLC	1 MB L2/core; up to 16MB shared LLC
	Boot	Onboard eMMC (HS200/400) + SPI NOR Flash
	TDP	33W
Memory	Technology	DDR5-5600MT/s
	ECC Support	Non-ECC or ECC
	Max. Capacity	Up to 48GB
	Socket	1 × 262 pin SO-DIMM
Expansion	PCI Express	Up to 5 × PCIE Gen3
Ethernet	10GB Ethernet	4 × 10GBASE-KR
	Gigabit	1 × GbE
I/O	USB	4 × USB 3.0, 4 × USB 2.0
	SATA	1 × SATA 3.0
	Serial	2 × UART, 2 × I^2C
	GPIO	4 × GPI / 4 × GPO
	Watchdog	Yes
	SPI Bus	Yes

Power	Power Supply	VCC_12V ±5%, 4A
Environment	Operating Temperature	0 – 60℃
	Storage Temperature	-40 – 80℃
	Operating Humidity	10% – 90%
	Storage Humidity	5% – 95%
Mechanical	Dimensions	125 mm × 95 mm (4.92" × 3.74")

CME102 Overview

The Asterfusion CME102 is a high-performance, network-optimized COM Express® Type 7 module designed for edge routing, white-box networking, edge compute, and data-plane offload applications. Built on TSMC's 5nm process, it is powered by the Marvell® OCTEON® 10 CN102 DPU featuring 8× Arm® Neoverse™ N2 (Armv9.0-A) cores. Operating within a 33 W processor TDP envelope, the CME102 delivers server-class processing efficiency (SPECint_rate 36.5). The CME102 is fully compliant with the PICMG COM.0 R3.0 Type 7 (Basic 125 × 95 mm) specification, enabling easy carrier-board reuse.

Dual-Boot Architecture

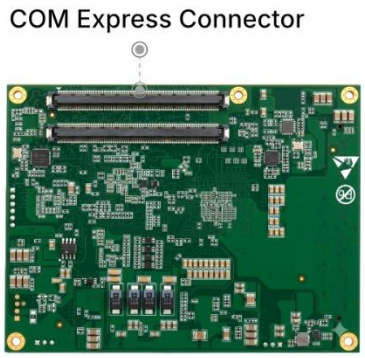
The CME102 features full dual-boot firmware support for both UEFI and u-Boot, allowing customers to deploy standard enterprise OS ISOs (such as RHEL or Ubuntu) as seamlessly as an x86 platform, while retaining lightweight, fast-boot embedded firmware management.

Silicon-Level Acceleration

By integrating hardware-driven VPP packet engines with inline IPsec and crypto acceleration, the CME102 delivers up to 5x faster packet processing for silicon-level data-plane offloading, natively supported by our AsterNOS-VPP routing software.

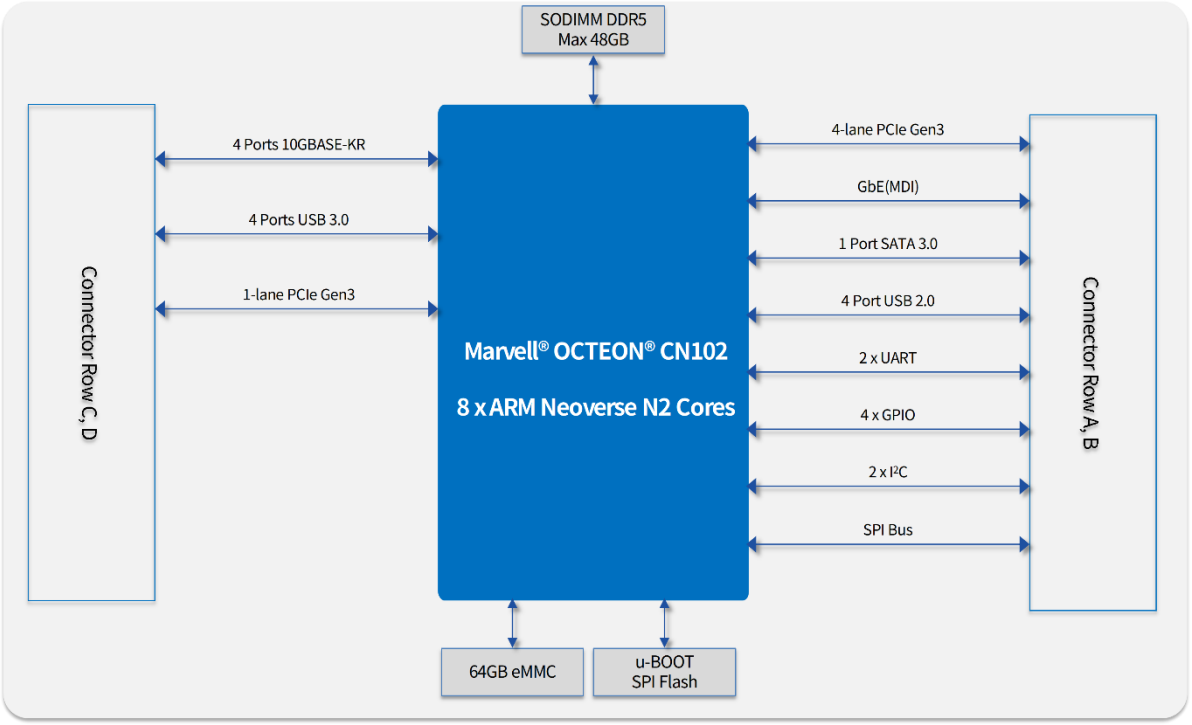
Physical Layout

Front View



Rear View

Block Diagram



Ordering Information

Part Number	Description
CME102	Basic COM Express Type 7 module, 125×95mm, with Marvell OCTEON 10 CN102, 8 ARM Neoverse N2 (Armv9.0-A) cores, 2.5 GHz, without heatsink
Optional Components	
CME102-HEATSINK	The Heatsink of CME102, 125×95×11.5mm
HW-WNT-1Y-CME102	Hardware platform warranty for CME series, 1 Year

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